Music 2000

Introduction

Music is everywhere. When we get up in the morning, when we work, when we ride in elevators. Music is a part of our lives. Some of us are lucky enough and have worked hard enough to learn how to play music. A very few of us compose our own music, for other people's enjoyment or just for our own enjoyment. With ***Music 2000*** you can use your Amiga to create, play, and edit music with very little musical background at all. And if you are fortunate enough to have a MIDI (Musical Instrument Digital Interface) keyboard at your disposal, ***Music 2000*** will even let you play your Amiga creations using the 'instruments' your keyboard provides.

Getting Started

Please note that this section of the manual is not intended to teach you all about music theory, composition, musical notation or much beyond the basics that you will need to get started using ***Music 2000***. If you want to learn more about music there are many fine books that can help. Even if you don't know a note from a knot and can barely hum a tune, you can still have fun with ***Music 2000***. If you don't understand some term or idea don't worry about it. Just keep going, experiment, and remember this, the Amiga has infinite patience. If you like the songs you create here, that is all that counts.

To start ***Music 2000*** just double click on the ***Music 2000*** icon and in a few moments you will see the main screen. We'll take a quick look at each element and then describe each part in more detail.

At the top of the ***Music 2000*** screen is the title bar. On the far right you will see the front and back gadgets common on most Amiga programs (if you are not familiar with gadgets check your Amiga manuals). If you press and hold the right mouse button you will see the that there are three pull down menus: the *Project* menu with options to save, load, and clear songs, the *Edit* menu with options to modify songs, and the *Song* menu with options to change the key and time signatures.

Just under the title bar you will see a blank musical staff complete with treble and bass clef. This is where the notes of your songs are displayed. This is also where you can enter notes directly into a song and edit notes.

Right below the staff is a black slider bar that extends across the entire screen and has arrows at both ends. This is the measure slider and is used to move through the song, measure by measure, or by leaps and bounds. The rectangular slider bar decreases in size as the length of the music increases. Dragging this bar to the left displays measures previous to the measures displayed and dragging it to the right displays measures that follow. Clicking on the arrows display the measures immediately before or after the measures displayed.

Below the measure slider starting on the left side there are a two rows of 18 boxes. The top row has pictures of notes, the bottom row has pictures of rests, a flat, a sharp, and a triplet symbol. These are the objects that you will use to make your songs. Only one of the notes or rests may be selected at a time, while the flat, sharp and triplet may be selected in conjunction with a note or rest to modify it. Whether you are entering notes with the mouse, the computer keyboard, or the on screen keyboard, the type of notes that will appear on the staff will be dictated by the highlighted note value displayed in this area.

Next to these 18 boxes there are six more boxes with pictures of an arrow, small keyboard, more notes, an X, a pair of tied notes, and a trumpet. Each of these are used to change the type of action you want to do while creating songs. These are called the *Action* tools.

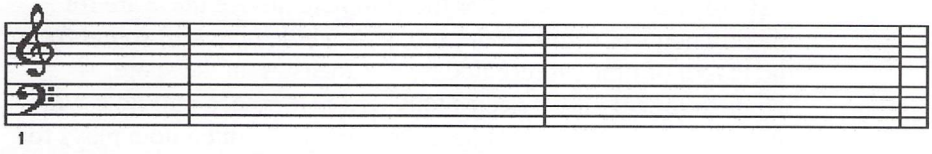
- On the far right you will see three "knobs" marked Volume, Tempo, and Tuning.

- The next four horizontal bars, marked Instrument-1, Instrument-2, Instrument-3, and Instrument-4 are used in selecting the voices used in creating and playing songs. ***Music 2000*** lets you create and play songs with up to four different voices simultaneously.
- At the bottom of the screen you will see what looks like a piano keyboard with 48 keys (28 white and 20 black keys). You can play songs by pointing to keys and clicking the left mouse button. You can even enter music on the staff using this keyboard.
- And finally, just to the right of this screen keyboard are three boxes, with icons representing PLAY, STOP, and CONTINUE. These are your tools for playing back songs showing on the staff.

Now that we have had a brief tour of the ***Music 2000*** screen, let's take a closer look at how each of these pieces are used.

The Staff

If you are familiar with standard musical notation then you already know about the staff. With a few exceptions the staff here acts the same way that you would imagine. All the notes, sharps, flats, and rests of your songs will be displayed on the staff like a standard musical score.



The staff is divided into two parts. The upper set of five lines running across the screen is called the Treble Clef and the lower set is called the Bass Clef. The higher up on the staff you put a note the higher the note will sound.

You will notice beneath the Bass Clef there is a number. This is the number of the first measure that is currently being displayed on the staff. Songs usually consist of a large number of measures. When you fill up the screen, the score will advance to the screen, and the number will change.

You can enter notes on the staff in four ways. First, you can place them there, one at a time using the mouse. This makes it easier to transcribe sheet music directly into ***Music 2000***. Second, you can use the piano keyboard at the bottom of the screen. When you click

on a key the note can be automatically added to the score. Third, you can use the Amiga keyboard as if it were a piano keyboard and have the notes added to the score automatically (note: the *Keyboard* tool must be activated to do this). Finally, you can load an existing song from disk and it will be displayed on the staff.

While creating songs you will only be able to work on one instrument or voice at a time on the staff. When an instrument is selected, its notes are displayed in black, and the other instruments notes are displayed in the background in light blue, but when all the voices are activated at once you will see all the notes of all the instruments. In this mode, each instrument has it's own color - making it easier to see what is going on.

If you don't know anything about standard musical notation don't worry about it. Music will let you create songs "by ear", trying new techniques with the ability to edit out the mistakes. Don't be surprised if after working with Music your knowledge of musical notation and such concepts as harmony and rhythm becomes quite a bit clearer.

Notes

The top row of nine boxes show you the notes that are available in ***Music 2000***. From left to right they are: Whole note, dotted half note, half note, dotted 1/4 note, 1/4 note, dotted 1/8 note, 1/8 note, 1/16 note, and 1/32 note. For the complete novice these are for playing notes of different durations. A whole note will sound for the length of time represented by one measure in the score. A whole note will play twice as long as a half note, a half note will play twice as long as a 1/4 note, and so on. A dotted note plays for one and a half times the duration of the regular note. You pick the length of note you wish to play by pointing at the note and clicking the left mouse button once. The note will then become highlighted. All notes entered from then on, whether placed on the staff directly or played on the keyboards (screen or Amiga) will be of that duration until you pick a different type of note.

To quickly see how this works move the pointer to the Instrument-1 box below and click the left mouse button once (we will talk about the Instrument boxes in detail a little later). The Instrument box should now be highlighted. Now move the pointer to one of the notes (the whole note is a good place to start) and

click the left mouse button once. That whole note gadget should be highlighted. Now move the pointer up to the staff (point near the center of the screen,) and click the left mouse button again. A copy of the note is added to the staff. If you move the pointer up or down and click the left mouse button again, a different note of the same duration will play and will be added to the staff next to the first one. Now select the quarter note and add a few more notes to the staff.

Rests

Just below the nine note gadgets are another nine gadgets. From left to right they are: Whole rest, half rest, 1/4 rest, 1/8 rest, 1/16 rest, 1/32 rest, flat, sharp, and triplet. They are activated the same way that the notes are, just point and click the left mouse button once.

A rest is just a pause in the song where no notes are played. The pauses last the same duration as a note of the same type (a 1/4 rest lasts as long as a 1/4 note would). You place them on the staff the same way you place a note on the staff. Click on a rest, move the pointer to the staff and click the left mouse button again. The rest will be placed where you wish. If you are creating a song with the keyboards (screen or Amiga) you can place rests on the staff by pressing the space bar, a rest will be inserted of a length dictated by the note that is selected, even if what is selected is not a rest. For instance, if you were entering eighth notes, pressing the space bar would insert a eighth rest instead.

Flats and Sharps

Flats and sharps are the black keys on a piano keyboard. You can play a song using only the white keys on a piano. Every once in a while you might want to play a note that falls somewhere between two white keys. If the black key was halfway between a A and a B key it could be called either a A sharp (up 1/2 step from the white A key) or a B flat (1/2 step down from the white B key).

Just select a note and then point to the sharp or flat and click the left mouse button. The note and the modifier (sharp or flat) will both be highlighted. When you place the note on the staff, the desired pitch will play and appear on the staff with the appropriate modifier.

Triplets

A triplet just lets you play three notes in the time it would normally

take to play two. If your song is following a beat - one, two, three, four, one, two, three, four and you put in triplets on the last beats it might look like... one, two, threefourfive, one, two, threefourfive. All notes that are entered when this option is selected will be triplet values of the note that is selected. Now the note will play for the desired duration and appear on the staff with a small 3 under it.

Tutorial

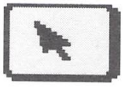
To make it easier to understand the features of ***Music 2000***, follow these instructions to put together your first song.

Music 2000 allows up to four voices, or instruments, to play at once within a score. Editing of instruments is done one at a time, with the current instrument displayed on the staff in black and the other instruments ghosted in light blue. Instruments are selected by clicking on the rectangular buttons that contain the instrument name. When selected the button will change to red.

There is a variety of Note Types displayed in the middle of the ***Music 2000*** screen. Whole notes, half notes, quarter notes, rests: each has a button that may be selected by moving the mouse over it and pressing the left mouse button. Only one Note Type may be selected at a time, and while it is selected, only notes of that type will be inserted into the score.

Entering notes

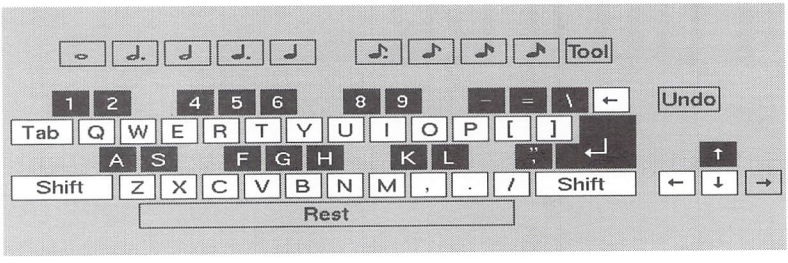
Notes can be entered into ***Music 2000*** in three ways:



When the *Arrow* Tool is selected, you can place notes or rests directly on the staff by positioning them with the mouse and pressing the left mouse button. Make sure that an instrument is selected and click on the *Arrow* Tool. Now move the mouse so that the pointer is over the staff. Your pointer will change to the Selected Note Type, which you can place anywhere on the staff by

positioning it and clicking the left mouse button. Using the *Pointer* Tool, you can enter sheet music by placing notes the way they appear, without having to know anything about musical notation.

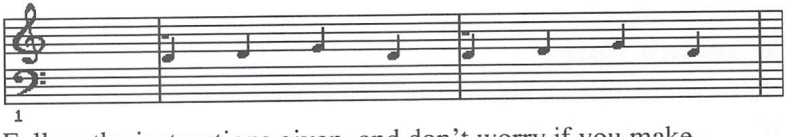
When the *Keyboard* Tool is selected, notes are entered by playing notes on a piano-style keyboard. There are two ways to play the piano keyboard at the bottom of the music screen. When the pointer is moved to the bottom of the screen, it becomes a hand; pressing the left mouse button while the hand is over notes will play them. Also, the main section of the computer's keyboard works as a piano keyboard that you can play with your fingers.



The bottom row of letters (ZXC...) are the lower two octaves of the white keys. The row above that (ASD...) represent the lower two octaves of black keys. Notice that some of these keys do not play notes because there are fewer black keys than white. The second row from the top (QWE...) plays the upper two octaves of white keys, and the top row (123..) plays the upper two octaves of black keys. The space bar has a special function when using the keyboard tool. It will insert rests of the same note length as the Note Type that is selected (i.e. if whole notes are selected, pressing the space bar will insert a whole rest).

Sample Song

Now let's enter a song. Our first objective will be to enter the following notes:



Follow the instructions given, and don't worry if you make mistakes: just leave them for now, and we will fix them later.

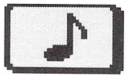
First, clear the song of any notes that are already there by selecting the *Clear Song* option from the *Project* menu. Now select the first instrument by clicking on its button. Then select the *Keyboard*

Tool so we can enter notes from the computer keyboard, and have them inserted into the score. The first notes are quarter notes, so select Quarter note as your Note Type. This can be accomplished by clicking on the button containing a graphic quarter note, or using the keyboard shortcut *F5*. Now, by using the keys on the keyboard, you can add quarter notes to the score.

Type from the computer keyboard:

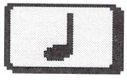
Tab - Q - W - Tab - Tab - Q - W - Tab - W - E - R - Space - W - E - R - Space

Now change the Note Type to eighth notes by clicking on the eighth note button, or using the keyboard shortcut *F7*, and type from the computer keyboard:



R - T - R - E

Change back to quarter notes *(F5)* and type:



W

Change to eighth notes *(F7)* again and type:

Tab - Space - R - T - R - E

Change back to quarter notes *(F5)* and type:

W

Change to eighth notes *(F7)* one more time and type:

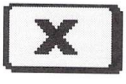
Tab - Space

And finally change to quarter notes *(F5)* and type:

Tab - RightShift - Tab - Space - Tab - RightShift - Tab - Space

To hear the notes you have entered, move the mouse to position the pointer over the *Play* button, which is green and has a sideways triangle on it. Click the left mouse button and the music will begin.

If you made some mistakes you can use the *Delete Note* Tool (X) to remove bad notes. Play the score again. When you approach a bad note, click on the stop button, which is directly below the play button and is red with a square in the center. Position the cursor over a bad note and press the left mouse button to delete the offending note.



The song seems a bit short, so let's lengthen it.

First we will capture the notes we have entered in the cut and paste buffer. Since we want to select all the notes, we can use the *Group All* option in the *Edit* menu, which does just that - it groups all the notes so that cut, copy and paste operations will use them. When you choose *Group All*, all of the notes in the score will turn red, to show that they are selected. Now select *Copy* from the *Edit* Menu;

the computer will capture the selected notes in its cut and paste buffer, ready for us to paste anywhere we wish, as many times as we wish. Let's make the music play twice as long by adding a copy of the notes we have entered to the end. Select the *Copy* option from the *Edit* menu. Use the slider control under the staff to move to the end of the score (i.e. blank measures), then select *Paste* from the *Edit* Menu. The pointer will change to a "TO" with crosshairs. Click anywhere on the staff; the notes we previously highlighted and copied will appear right after the notes we entered.

Click on the *Play* button again and listen to the new, longer song.

Let's make the song better by adding some harmony.

Choose the second instrument, and change the Note Type to a Whole Rest. Select the *Arrow* Tool and insert a whole rest at the beginning by moving the mouse anywhere on the staff and pressing the left mouse button. Now select *Paste* from the *Edit* Menu and position the TO crosshairs to the right of the whole rest, so that the notes we copied before will be inserted after the rest. Now we have two voices playing, the second the same as the first, except that it starts one measure later, because of the whole rest at the beginning.

Click on the selected instrument (the one whose button is red); the button will turn back to blue, showing that no instruments are selected. Now click on the *Play* button again and listen to the new, improved song.

Let's add one more instrument. Click on the third instrument button, and this time insert two whole rests by selecting the *Arrow* tool, choosing the whole rest Note Type, and clicking twice while the mouse is positioned over the staff. Then paste the notes after the last rest, click on the selected instrument so that no instruments are highlighted, click on *Play*, and listen to three-part harmony.

You can see that entering music is not difficult, and that the editing tools can make the job a lot easier. With some practice and some patience you could write a good pop song, or even a symphony, using the ***Music 2000*** program.

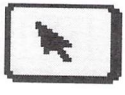
Tools

Music 2000 has many tools used in the program. Lets review them one at a time:

Action Tools

The next set of boxes are used for entering songs and editing them. They are called *action* tools. They are: the *Arrow* Tool, *Keyboard* Tool, *Load Instrument* Tool, and on the second line, the *Join Notes* Tool, *Group Notes* Tool, and *Delete Note* Tool.

Arrow tool

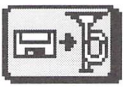


The first tool we have already been using. The *arrow* tool is simply a pointer. This is the default tool and should be selected (by pointing to it and clicking on the left mouse button) when you are placing notes on the staff.

Keyboard tool

The next tool is the keyboard. This icon is used when you wish to use either the screen piano or Amiga keyboard to enter notes into your musical score. This can make entering music more intuitive, and spontaneous, especially if you are not familiar with musical notation. Again, just point to the tool and click the left mouse button. The tool will become highlighted.

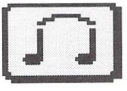
Load Instrument tool



The next tool is used in conjunction with the Instrument bars to load different instruments from disk. Select one of the Instrument bars by pointing to it and clicking the left mouse button then point to the *Load Instrument* tool and click the left mouse button again. A requester box will appear that will let you load a new instrument or sound from disk. From then on when you play that instrument it will have the new sound.

You don't have to have the same instrument in all four voices, you can mix them up as you like. You can also change the instruments used on existing songs to see how they might sound.

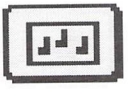
Tie Notes tool



Under the *arrow* tool is a picture of two notes tied at the top. This tool is used to tie notes on the staff that follow one another. This is the way to make a note last longer than its normal duration. Just point to the *Tie Notes* tool and click the left mouse button to activate it. As you move the pointer up to the staff you will see the pointer change to a plus sign with the word "TIE" underneath. Now point to the first of the two notes you wish to tie and click the left mouse button a line will be drawn on the staff under the notes connecting the two.

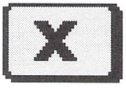
You may tie as many notes as you wish this way; just remember to select another *action* tool when you are finished. Untying notes is done using the same process. Just click on the first note of the pair with the plus sign and the tie line will be removed.

Group Notes tool



This tool is used to highlight a series of notes for the cut, copy, and paste editing features described later. To highlight a group of notes just point to the *Group Notes* tool and click the left mouse button. As you move up to the staff the pointer will change to a red box with the word *FROM* underneath. Put the box on the first note of the group you wish to highlight and click the left mouse button. You will see the *FROM* change to the word *TO*. Now move the box to the last note in the series you wish to highlight and click the left mouse button again. All the notes between (and including) the ones you clicked on will turn red indicating that they are now selected. The pointer will again change to read *FROM*. If you highlight another group of notes the first group will no longer be selected.

Delete Note tool



The last tool in the Action series is the *Delete Note* (or X out) tool. If you wish to remove notes from the staff just point to the *Delete Note* tool and click the left mouse button. Now, when you move up to the staff the pointer will change to an X. Put the X over the note you wish to erase and click the left mouse button. The note will be removed. You can erase as many notes as you wish in this way.

Knobs

On the far right of the screen, next to the *Action* tools, you will see three "knobs". They are for adjusting how your songs will sound when you play them back. They act just like knobs on a radio or TV. You will see a white line on each of the knobs indicating it's position. To adjust them just point at the line, press and hold down the left mouse button, and move the mouse in the direction you wish. The three knobs are Volume, Tempo, and Tuning.

Volume

The top knob, marked Volume, controls how loud the song will be played back. Turning the knob clockwise increases the volume and turning it counter-clockwise decreases the volume. As you pass through the bottom point (6 O'clock) the volume will jump from highest to lowest (if turning in the clockwise direction) or from lowest to highest (if turning counter-clockwise). If an individual instrument is selected, then only the volume of that instrument will be affected. If no instrument is selected, then all the instruments are affected equally.

Tempo

The next knob, marked Tempo, controls the rate of the song as it is played back. Increasing the Tempo by turning the knob clockwise will make the song play faster while decreasing the Tempo by turning the knob counter-clockwise will make the song play slower. Again, 6 O'clock (when the line points straight down) is the crossover point from slowest to fastest.

Tuning

The last knob, marked Tuning, lets you adjust the pitch of a song as it is played back. This is useful if, for example, you wish to play along with a song on your violin but Middle C on your violin isn't quite the same as a Middle C played through ***Music 2000***. This also allows you to retune an individual instrument. If an individual instrument is selected then the pitch of only that instrument is

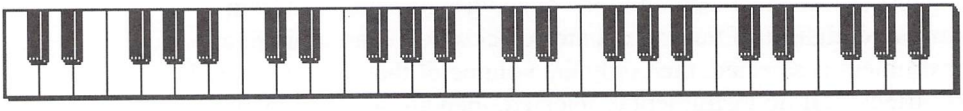
affected. If no instrument is selected, then all instruments are affected equally. The range of the tuning knob is one full tone, (the distance in the musical scale between A and B).

The Instrument Bars

The four instrument bars are used to select which voice or part you wish to add notes to. To select an instrument just point at it's box and click the left mouse button once. If another instrument had been selected it will automatically be turned off. When an instrument is selected its notes will be displayed in black, and all other instruments will be displayed in the background in light blue.

As soon as you select an instrument the staff will change showing you which notes have already been entered for that instrument. When you want to hear all the instruments play back simultaneously point to the highlighted instrument and click the left mouse button once to deselect it. None of the instruments should be highlighted any more and the staff will show all of the notes for all of the instruments. Each instrument's notes will be of a different color so you can tell them apart.

The Screen Keyboard and Amiga Keyboard



At the bottom of the screen you can see a piano keyboard. You can enter notes on the staff using the mouse and this keyboard by pointing at the desired key and clicking the left mouse button. When you move the pointer down to the screen keyboard you will notice it change into a picture of a hand with a pointing finger. These 48 keys behave exactly like a piano keyboard except that you can't hit more than one key at a time. The keys on the screen also correspond to keys on the Amiga keyboard.

When the *Keyboard Action* Tool is selected the notes you play are inserted on the staff using the currently selected not value. There is a cursor which follows the notes as they are inserted. This cursor is only visible when the *Keyboard action* tool is selected, or when a song is playing. You can change the position of the cursor by clicking in the staff area, so that you can insert between notes, or anywhere you wish.

You can use either of these keyboards to enter notes on the staff when the *Keyboard* tool is selected. When the *Keyboard action* tool is not selected you can still hear the notes played on the keyboards but they won't be entered on the staff.

Play, Stop, and Continue

Finally there are three boxes at the bottom right corner of the screen, Play - a triangle on a green background, Stop - a square on a red background, and Continue - a pair of lines and a triangle on a green background.

Play

When you point at the Play box and click the left mouse button, the current song will play from the beginning. If only one instrument is selected then only the notes for that instrument will play. The song will continue to play through until it reaches the end of the piece, or until you select Stop. While the song is playing you can select different instruments, change volume, tempo or tuning.

Stop

To stop a song before it finishes (or in a case like that just mentioned above) just move the pointer to the Stop box and click the left mouse button once.

Continue

This button plays the song from the current measure to the end.

Menus

Project menu

The *Project* menu, located at the far left of the title bar, has six items: *Clear Song, Clear Instruments, Load Song, Save Song, About,* and *Quit.*

```
Project
Clear Song
Clear Instruments
Load Song          A L
Save Song          A S
Save MIDI File
Print
About
Quit
```

Clear Song

When you want to clear the score and start all over again just select *Clear Song* from the *Project* menu. The music that was on the score will be erased. The current selection of instruments will remain unchanged.

Clear Instruments

To erase the currently loaded sounds, select *Clear Instruments* from the *Project* menu.

Load Song

This item is for loading songs that have previously been saved on disk. When you select this item a requester box will appear where you can select which song you wish to load.

Save Song

This item is for when you wish to save a song on disk. When you

select this item a requester box will appear where you can specify which disk drive you wish to use and what name you want to give to your song.

Save MIDI File

This item will save your song using the standard MIDI file format so that you can export your songs to other sequencing or composition programs. You should not use the MIDI file format unless you have external synthesizers and programs which can import MIDI files.

Print

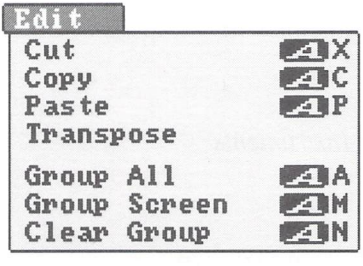
Selecting this item will print the current screen display to a graphics printer (dot-matrix or laser printer). A requester will appear that lets you abort the print operation while it is in progress. For *Print* to work, your printer must be properly connected and set up in the Amiga *Preferences* program. If printing does not work properly, make sure your printer preferences are properly set up (consult your Amiga Workbench manual for details about setting printer preferences).

About

This item will display the version number of the ***Music 2000*** program.

Quit

When the music is over and you give your last curtain call select this item to pack up and go home. If you haven't already saved the song in the score you will be asked if you really want to quit. When you have saved your work the program will exit, returning you to Workbench.



Edit menu

The *Edit* menu contains functions for making changes to songs. There are 6 options here: *Cut, Copy, Paste, Transpose, Group All, Group Screen, Clear Group*. All three of these items work in conjunction with the *Group Notes* tool.

Cut

In order to cut notes from a song they must have already been selected using the *Group Notes tool* or *Group* menu selections. When you select this menu item the grouped notes will be removed from the score, but they are stored temporarily in memory so that

they can be "pasted" back elsewhere in the score. Cut provides a method of removing a large number of notes at once. It is also a good way to move groups of notes from one place in a score to another.

Warning: Even though the notes are stored when you perform a cut, the next cut or copy will erase any notes previously held in memory.

Copy

Copy stores a copy of a group of notes temporarily in memory. Select the group of notes using the *Group Notes* tool. Copy works in a manner similar to cut, except that the selected group of notes remains in the score. To put a copy of the group in another part of the score you must use the *Paste* option.

Paste

This will insert a copy of whatever notes are currently stored in temporary memory into the score. A group of notes must have already been cut or copied before you can use *Paste*. When you select Paste you will return to the main screen and the pointer will now be a plus sign above the word "TO". Move to the part of the score where you wish the group to be inserted and click the left mouse button. The group of notes will be inserted at that point. You can Paste the same group of notes into the score as many times as you wish. When cut or copy is used again the old group will be replaced by the new group.

The whole procedure for making a copy of a group of notes is as follows. First, highlight the group using the *Group Notes* tool. Second, select *Copy* from the *Edit* menu. Third, select *Paste* from the *Edit* menu. Fourth, select where you wish the copy of the group to be inserted in the score.

Transpose

Raises or lowers the pitch of the notes that are highlighted. When this menu selection is chosen, a requester appears asking whether you want the notes transposed up or down, and the amount of transposition in semitones.

Group All

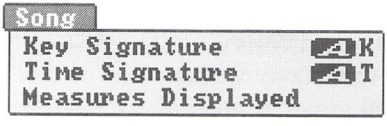
This option groups all the notes of the currently selected instrument. If no instrument is selected, this option has no effect. This is identical to using the *Group Notes* tool to group the entire track.

Group Screen

This option is similar to the above, except that instead of grouping all the notes, it groups the all the notes on the screen for the selected instrument.

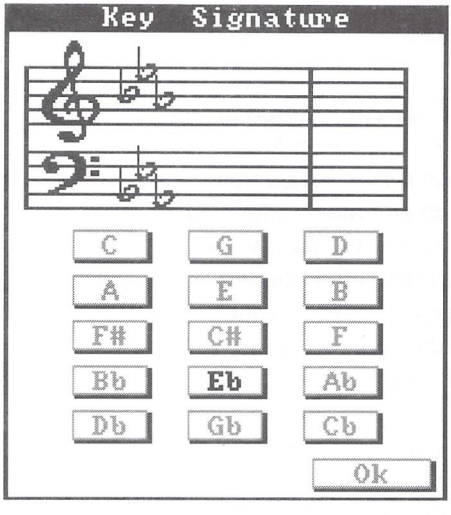
Clear Group

This option clears the currently selected group, so that no notes are highlighted.



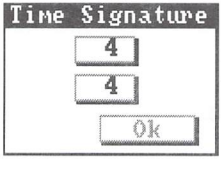
Song menu

There are three items here: *Key Signature, Time Signature,* and *Measures displayed.*



Key Signature

When you select the *Key Signature* option on the *Song* menu a requester box will appear on the screen. Here you will see a small version of a musical staff and 16 boxes below it. Fifteen of the boxes, arranged in a grid, are for selecting what musical key you want to create your songs in. To pick a key just point to it and click the left mouse button once. You will see the appropriate sharps and flats appear on the staff at the top of the box. (The default key signature is the key of C which has no sharps or flats). The sixteenth box, marked *OK* is for when you are finished selecting the key. Just point to this box and click the left mouse button to exit the Key Signature box and return to the main screen.



Time Signature

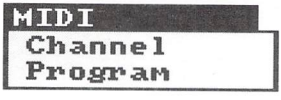
When this item is selected from the *Song* menu a requester box will appear with three boxes inside. Here you can change the *Time Signature* you wish to use when creating new songs. The top two boxes should read 4 and 4 (unless you have loaded a song from disk already). To change the values of these two boxes just point in the box and click the left mouse button. Use the backspace key to erase the current value and enter the new value on the Amiga keyboard. For example to create a song in 3/4 time just click in the upper box, backspace over the four, press the "3" key, and press return. When you are finished

move the pointer to the *OK* box and press the left mouse button to return to the main screen.

Measures Displayed

Music 2000 can display as many measures of music on screen as you wish. For songs with long note values (i.e. whole notes) it would be convenient to see many measures on screen, while for songs with thirty-second notes anything more than 1 measure at a time would be cluttered. When the *Measures Displayed* menu option is selected a requester appears with a box containing the current number of measures displayed. To change the value, click the mouse inside the box and use the backspace key to erase the current value. Then type the number of measures you wish to display and type return. Click on the *OK* box when you are finished.

MIDI menu



'MIDI' (for "Musical Instrument Digital Interface") is a standard that has been developed by the electronic music industry to allow electronic instruments to communicate with each other. With MIDI, the components of a musical composition - duration, tempo, pitch, and timbre - can be manipulated and transformed individually in many ways. MIDI also makes it possible to combine and interweave separate musical strands from a number of different sources.

Music 2000's MIDI capability allows you to use your Amiga for creating and editing the notes that make up a musical composition, then send the result to a MIDI keyboard so that you can take advantage of the instrumental voicings the keyboard provides. For more details on MIDI, and the capabilities of your individual keyboard, please consult the keyboard manufacturer's documentation.

The two items on the MIDI menu let you specify which MIDI 'channel' each of your ***Music 2000*** instruments should be sent out on, and which 'program' - generally meaning an instrumental sound - should be used on that channel.

Channel

Selecting this item brings up the *MIDI Channels* requester, on which you can select which MIDI channel each of your four ***Music 2000*** instruments will be sent out on. You may choose channel numbers from 1 to 16. After you have entered the channel numbers in each of the four string gadgets on this requester, click *OK*.

Program

This item brings up the *MIDI Programs* requester. Here you specify which 'program' is to be associated with each of the four ***Music 2000*** instruments. Valid program numbers range from 0 to 127. Once you have set the four string gadgets on this requester, click *OK*.